

CLAIMS

1. A device for dispensing a multicomponent composition comprised of a mixture of a plurality of different fluid components, the device comprising:

a plurality of fluid component inlets, each adapted to communicate with a source of a different fluid component;

at least one carrier fluid inlet adapted to communicate with a source of a pressurized carrier fluid;

a diffuser surface located downstream from the plurality of fluid component inlets and the at least one carrier fluid inlet; and

an outlet extending through the diffuser surface,

wherein the diffuser surface is adapted to receive fluid components thereon, and has a shape effective to direct and maintain each received fluid component in a different flow path toward the outlet for mixing and dispensing therethrough by the pressurized carrier fluid from the at least one carrier fluid inlet.

2. The device of claim 1, wherein the outlet is aligned with the at least one carrier fluid inlet.

3. The device of claim 1, wherein the outlet is a slot shaped orifice.

4. The device of claim 1, wherein the outlet is located at the center of the diffuser surface.

5. The device of claim 1, wherein the diffuser surface is permanently immobilized to the inlets.

6. The device of claim 1, wherein the diffuser surface exhibits axial and/or mirror symmetry.

7. The device of claim 1, wherein the inlets are each located at the terminus of a corresponding lumen.

8. The device of claim 7, wherein the lumens coextend through a tubing member.
9. The device of claim 1, comprising a plurality of carrier fluid inlets adapted to communicate with a source of pressurized carrier fluid.
10. The device of claim 9, wherein the carrier fluid inlets define a line that is perpendicular to a line defined by the fluid component inlets.
11. The device of claim 1, further comprising
a plurality of different fluid component sources each in communication with a different fluid component inlet, and
a source of pressurized carrier fluid in communication with the carrier fluid inlet.
12. The device of claim 11, wherein at least one component fluid inlet is formed from a material not prone to adhesion with any fluid component and/or the multicomponent composition.
13. The device of claim 11, wherein at least one fluid component is a liquid.
14. The device of claim 11, wherein the fluid components are chemically reactive with respect to each other.
15. The device of claim 14, wherein at least one fluid component is comprised of a crosslinking agent.
16. The device of claim 14, wherein at least one fluid component is comprised of a synthetic compound
17. The device of claim 16, wherein the synthetic compound is a polyethylene glycol-containing compound.

18. The device of claim 14, wherein at least one fluid component is comprised of a naturally occurring compound.

19. The device of claim 18, wherein the naturally occurring compound is a protein.

20. The device of claim 19, wherein the protein is a collagenic material.

21. The device of claim 19, wherein the naturally occurring compound is a saccharide.

22. The device of claim 11, wherein at least one fluid component is biocompatible.

23. The device of claim 11, wherein the pressurized carrier fluid is a gas.

24. The device of claim 11, wherein the carrier fluid is chemically inert with respect to the fluid components.

25. A method for forming a device for dispensing a multicomponent composition comprised of a mixture of a plurality of different fluid components, the method comprising placing a diffuser surface having an outlet extending therethrough such that the diffuser surface is downstream from a plurality of fluid component inlets and at least one carrier fluid inlet,

wherein the diffuser surface is adapted to receive fluid components thereon, and has a shape effective to maintain and direct each received fluid component in a different flow path toward the outlet.

26. A method for dispensing a multicomponent composition comprised of a mixture of a plurality of different fluid components, the method comprising:

(a) carrying out the method of claim 25;

(b) directing a different fluid component from each of the fluid component inlets toward the diffuser surface;

(c) allowing the diffuser surface to maintain and direct each received fluid component in a different flow path toward the outlet; and

(d) directing pressurized carrier fluid from the at least one carrier fluid inlet through the outlet, thereby mixing the fluid components present at the outlet and dispensing the composition through the outlet.

27. The method of claim 26, wherein the fluid components are directed at substantially the same flow rate toward the diffuser surface during step (b).

28. The method of claim 26, wherein the fluid components are directed at different flow rates toward the diffuser surface during step (b).

29. The method of claim 26, wherein the composition formed comprised of a polymer.

30. The method of claim 29, wherein the polymer is crosslinked.

31. The method of claim 29, wherein the polymer is conjugated.

32. The method of claim 29, wherein the polymer is resorbable.

33. The method of claim 29, wherein the polymer serves as a sealant.

34. The method of claim 29, wherein the polymer serves as a biocompatible adhesive.

35. The method of claim 29, wherein the polymer serves as a biocompatible adhesion inhibitor.

36. A device for dispensing a multicomponent composition comprised of a mixture of a plurality of different fluid components, the device comprising:

a plurality of fluid component inlets, each adapted to communicate with a source of fluid component;

a plurality of carrier fluid inlets adapted to communicate with a source of a pressurized carrier fluid;

a diffuser surface located downstream from the plurality of fluid component inlets and the plurality of carrier fluid inlets; and

an outlet extending through the diffuser surface and aligned with the plurality of carrier fluid inlets,

wherein the diffuser surface is adapted to receive fluid components thereon, and has a shape effective to direct each received fluid component toward the outlet for mixing and dispensing therethrough by pressurized carrier fluid from the plurality of carrier fluid inlets.

37. A method for forming a device for dispensing a multicomponent composition comprised of a mixture of a plurality of different fluid components, the method comprising

placing a diffuser surface having an outlet extending therethrough such that the diffuser surface is downstream from a plurality of fluid component inlets and a plurality of carrier fluid inlets, and the outlet is aligned with the plurality of carrier fluid inlets,

wherein the diffuser surface is adapted to receive fluid components thereon, and has a shape effective to maintain and direct each received fluid component toward the outlet.

38. A method for dispensing a multicomponent composition comprised of a mixture of a plurality of different fluid components, the method comprising:

- (a) carrying out the method of claim 37;
- (b) directing a different fluid component from each of the fluid component inlets toward the diffuser surface;
- (c) allowing the diffuser surface to direct each received fluid component toward the outlet; and
- (d) directing pressurized carrier fluid from the at least one carrier fluid inlet through the outlet, thereby mixing the fluid components present at the outlet and dispensing the composition through the outlet.